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PATTON BOGGS PO BOX 270930 LOUISVILLE, CO 80027			AUGHENBAUGH, WALTER	
			ART UNIT	PAPER NUMBER
			1772	

DATE MAILED: 02/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/993,733

Applicant(s)

JOHNSON, GREGORY D.

Examiner

Walter B Aughenbaugh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14-28 and 39-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14-28 and 39-42 is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 31, 2003 has been entered.

Acknowledgement of Applicant's Amendments

2. The amendments made in claims 6-8, 18 and 21 in the Amendment filed December 31, 2003 (Amdt. C) have been received and considered by Examiner.

WITHDRAWN REJECTIONS

3. The 35 U.S.C. 112 rejection of claims 18 and 21 that was repeated in paragraph 14 of Paper 5 has been withdrawn due to Applicant's amendments in claims 18 and 21 in Amdt. C.

4. The 35 U.S.C. 112 rejection of claims 6-8 made of record in paragraph 15 of Paper 5 has been withdrawn due to Applicant's amendments in claims 6-8 in Amdt. C.

5. The 35 U.S.C. 103 rejection of claim 18 made of record in paragraph 17 of Paper 5 has been withdrawn due to Applicant's amendments in claim 18 in Amdt. C.

REPEATED OBJECTIONS

Allowable Subject Matter

6. The objection to claim 21 (which would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if the new 35 U.S.C. 112 rejection of claim 21 made of record in this Office Action is overcome) as being

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dependent upon a rejected base claim has been repeated for the reasons previously made of record in paragraph 5 of Paper 5 (note that the 35 U.S.C. 112 rejection of claim 21 that was repeated in paragraph 14 of Paper 5, and that was mentioned in paragraph 5 of Paper 5, has been withdrawn in this Office Action).

REPEATED REJECTIONS

7. The 35 U.S.C. 103(a) rejection of claims 1-12, 14-17, 22, 25-28 and 39-42 over Sobolev in view of Fitzgerald et al. made of record in paragraph 16 of Paper 5 has been repeated for the reasons previously made of record in paragraph 16 of Paper 5.

8. The 35 U.S.C. 103(a) rejection of claims 19 and 20 over Sobolev in view of Fitzgerald et al. and in further view of Lee made of record in paragraph 18 of Paper 5 has been repeated for the reasons previously made of record in paragraph 18 of Paper 5.

9. The 35 U.S.C. 103(a) rejection of claim 23 over Sobolev in view of Fitzgerald et al. and in further view of Yoshida et al. made of record in paragraph 19 of Paper 5 has been repeated for the reasons previously made of record in paragraph 19 of Paper 5.

10. The 35 U.S.C. 103(a) rejection of claims 23 and 24 over Sobolev in view of Fitzgerald et al. and in further view of Gallis et al. made of record in paragraph 20 of Paper 5 has been repeated for the reasons previously made of record in paragraph 20 of Paper 5.

11. The 35 U.S.C. 103(a) rejection of claims 39-41 over Sobolev made of record in paragraph 21 of Paper 5 has been repeated for the reasons previously made of record in paragraph 21 of Paper 5.

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12. The 35 U.S.C. 103(a) rejection of claim 42 over Sobolev in view of Fitzgerald et al. made of record in paragraph 22 of Paper 5 has been repeated for the reasons previously made of record in paragraph 22 of Paper 5.

NEW REJECTIONS

Claim Rejections - 35 USC § 112

13. Claims 18 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regard to claim 18, the relationship between the first bend and the second bend and how this structure contributes to the structure of the "double-thick flange" is unclear. The condition that there are two separate bends is not positively recited: the panel could be "bent twice to form a first bend and a second bend" where the result of the two bending steps as recited would be a single bend. The structure intended to be recited by the phrase "said second bend being closer to said panel end than said first bend" cannot be ascertained since it is not clear what closer is intended to mean: the claim language contradicts the structure shown in Fig. 13 since the first bend is shown as being closer to the panel end than the second (180 degree) bend. The structure intended to be recited by the phrase "a first portion of said panel between said first bend to said second bend and a second portion of said panel between said second bend to said panel end" cannot be ascertained. The phrase "between said first bend to said second bend" is incomplete: between the first bend and what? The phrase "between said second bend to said panel end" is incomplete: between the second bend and what? How could a "portion" of the

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panel be "between" the bends of the panel when the panel itself is bent to form the bends of the panel?

Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the structural relationships intended to be recited by the phrase "extending beyond" in lines 3, 4, 7 and 8. "Beyond" in what direction relative to the panel? Furthermore, the structure intended to be recited by the term "exposed" cannot be ascertained and causes confusion: aren't both ends of each of the plastic core, facing and backing "exposed"? (see paragraph bridging pages 10 and 11 and Fig. 14)

Claim Rejections - 35 USC § 103

14. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sobolev in view of Fitzgerald et al. and in further view of Toedter.

Sobolev and Fitzgerald et al. teach the concrete formwork panel as discussed in paragraph 16 of Paper 5. Fitzgerald et al. further teaches that the panel includes a panel end and is bent twice to form a first bend and a second bend (see Figures 1, 2 and 6).

Sobolev and Fitzgerald et al fail to teach that the second bend is closer to the panel end than the first bend and that the second bend is substantially 180° so that the panel is bent back on itself to form a double-thick flange.

Toedter, however, discloses a panel (work sheet, item 200) that is bent back on itself to form a double-thick panel (col. 3, lines 21-39 and Fig. 1, 8 and 10). Toedter discloses that the panel is bent back on itself via grooves (items 222 and 223), that are structurally equivalent to

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the grooves (items 20 and 22) of Fitzgerald et al., to form the second bend that is substantially 180° as claimed by Applicant (col. 3, line 41-col. 4, line 40) and to form the double-thick flange as claimed by Applicant. The structure taught by Toedter that is equivalent to the second bend claimed by Applicant is closer to the panel end (free edge surface, item 3252, Fig. 4, col. 6, lines 62-63) than the first bend that is made at grooves 220 and 221 as shown in Fig. 11. Toedter discloses that this panel structure results in a building element that has, weight for weight, a greater resistance to crush and shear exerting forces than other known building elements (col. 1, lines 47-65).

Therefore, one of ordinary skill in the art would have recognized to have formed the flange (items 12 or 14) of Fitzgerald et al. such that the second bend of the flange (item 12 or 14) is closer to the panel end than the first bend and such that the second bend is substantially 180° so that the panel is bent back on itself to form a double-thick flange since it is notoriously well known to form double-thick building elements with two bends wherein the second bend is closer to the end of the building element than the first bend and the second bend is substantially 180° so that the element is bent back on itself to form a double-thick building element in order to enhance the resistance to crush and shear exerting forces of the building element as taught by Toedter.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the flange (items 12 or 14) of Fitzgerald et al. such that the second bend of the flange (item 12 or 14) is closer to the panel end than the first bend and such that the second bend is substantially 180° so that the panel is bent back on itself to form a double-thick flange since it is notoriously well known to form double-thick building elements with two bends

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wherein the second bend is closer to the end of the building element than the first bend and the second bend is substantially 180° so that the element is bent back on itself to form a double-thick building element in order to enhance the resistance to crush and shear exerting forces of the building element as taught by Toedter.

ANSWERS TO APPLICANT'S ARGUMENTS

15. The declaration of Carl A. Forest signed December 31, 2003 has been received and considered by Examiner. The effectiveness of this declaration is discussed on pages 7-8 of this Office Action.

16. Applicant's arguments on pages 6-9 of Amdt. C regarding the 35 U.S.C. 103 rejection of claims 1-12, 14-17, 22, 25-28 and 39-42 made of record in Paper 5 have been fully considered but are not persuasive.

Applicant's argument on page 7 of Amdt. C that "the disclosure of steel is minimal" in Sobolev is irrelevant; Sobolev plainly discloses steel. Applicant repeats the argument that was previously made on page 6 of Paper 7 (the After Final Amdt. filed October 7, 2003) that the example of Sobolev which used steel "failed". The assertion that this example "failed" is not supported by the disclosure of Sobolev for the reasons that were provided on pages 2-4 of Paper 9 (the Advisory Action mailed October 23, 2003); Sobolev does not teach or suggest that the panel comprising steel "failed" as Applicant alleges.

Applicant misrepresents Examiner's position provided on pages 2-4 of Paper 9 on page 7 of Amdt. C wherein it is not "suggest[ed] that a steel panel made with a 'slightly more flexible epoxy resin' would not fail" as Applicant alleges. The 9th-14th lines of page 3 of Paper 9 state that "absolutely nothing can be inferred from Sobolev's teachings as to which metal (steel or

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aluminum) is the superior material in terms of core cracking” because Sobolev does not report a test with a panel comprising steel and the “slightly more flexible epoxy resin”: this is certainly not a suggestion that “a steel panel made with a ‘slightly more flexible epoxy resin’ would not fail” as Applicant alleges is suggested. It is also not clear what is meant by “application” in the fifth line of page 7 of Amdt. C. Applicant states that “it could also be that the one made with steel failed and therefore was not reported” but it could just as well be that a panel with steel and the “slightly more flexible epoxy resin” was not made and/or tested. Applicant argues that “the disclosure [of Sobolev], as a whole, points one skilled in the art in the direction of aluminum/plastic panels, not steel/plastic panels”, but Sobolev teaches that “steel/plastic panels” perform equally as well as “aluminum/plastic panels” as discussed on pages 2-4 of Paper 9; therefore, one of ordinary skill in the art would be led to pursue “steel/plastic panels” as much as “aluminum/plastic panels” based on the teachings of Sobolev discussed in pages 2-4 of Paper 9.

In response to Applicant’s piecemeal analysis of the references (in response to Applicant’s statement that “Fitzgerald et al. does not disclose that high-density polyethylene can be used in a plastic/metal concrete formwork panel”), it has been held that one cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references. *In re Keller*, 208 USPQ 871 (CCPA 1981). As stated in paragraph 15 of Paper 5, Sobolev teaches that the laminate is used as panels for concrete pouring forms (col. 3, lines 21-25 and line 60). Since Fitzgerald et al. disclose that high-density polyethylene is a plastic that has a suitable rigidity for use in concrete form mold panels (col. 2, lines 10-12 and col. 3, lines 4-15) as stated in paragraph 15 of Paper 5, one of ordinary skill in the art would have recognized to have used high-density polyethylene as the plastic of the panel for concrete

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pouring forms of Sobolev. Applicant's argument that Fitzgerald et al. discloses that HDPE is "strong enough to be used by itself in a concrete form, though only for test specimens" is inconsequential because (1) test specimens would be constructed such that they simulate actual concrete forms or such that they are actual concrete forms (actual concrete forms would be used as test specimens) and (2) the combination of references proposed in Paper 5 does not require that HDPE is "used by itself in a concrete form" because the HDPE is used in combination with a steel facing layer and a metal backing layer as claimed. The proposed combination of references made of record in paragraph 5 of Paper 5 is appropriate. In response to Applicant's piecemeal analysis of the references (in response to Applicant's allegations regarding the suitability of the panel of Fitzgerald et al. for use as concrete formwork panels) it has been held that one cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references. *In re Keller*, 208 USPQ 871 (CCPA 1981). As stated in paragraph 15 of Paper 5, Sobolev teaches that the laminate is used as panels for concrete pouring forms (col. 3, lines 21-25 and line 60). As stated on page 4 of Paper 9, Examiner affords no structural distinction between each of the individual walls (items 10, 12 and 14) of the plastic panel that forms the "beam mold for forming a concrete beam" of Fitzgerald et al. (col. 3, lines 4-6 and lines 9-13) and the concrete formwork panel as claimed in the instant application.

Applicant argues at the bottom of page 7 of Amdt. C that a prima facie case of obviousness has not been established because "the use of high-density polyethylene in a laminated metal/plastic panel, is missing", but it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used high-density polyethylene as the

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plastic of the plastic core of Sobolev since high-density polyethylene is a plastic that is notoriously well known as having a suitable rigidity for use in concrete form mold panels as taught by Fitzgerald et al. as made of record in paragraph 16 of Paper 5; i.e. the "references when combined" teach all of the claim limitations.

Applicant argues that a prima facie case of obviousness has not been established because "there is no reasonable expectation of success, since the plastic core in one panel in which steel was used in Sobolev cracked under the impact test", but the plastic core in one panel in which aluminum (Sobolev's preferred metal) was used cracked under the impact test to the same extent that the laminate having steel cracked (i.e. slight cracking), and therefore, Sobolev actually establishes reasonable expectation of success with steel as the metal since the core cracking results of the laminate having steel were identical (slight cracking) to those of the laminate having aluminum and the same resin of the laminate having steel as discussed above. Applicant then argues that "there is no reason to expect that high-density polyethylene and steel will bond well, since no such bonding is disclosed", but the degree of the bond strength to which Applicant is presumably referring is irrelevant because Applicant does not claim anything about how "well" the steel bonds to the high-density polyethylene (how strong the bond strength between the steel and the high-density polyethylene is). Applicant then argues that "the use of high-density polyethylene in a panel... is not suggested in the references", but the use of high-density polyethylene in a panel is explicitly taught by Fitzgerald et al. as discussed above. A prima facie case of obviousness was established in the 35 U.S.C. 103 rejection of claims 1-12, 14-17, 22, 25-28 and 39-42 made of record in Paper 5; the subject matter claimed in claims 1-12, 14-17, 22, 25-28 and 39-42 would be arrived at by one of ordinary skill in the art from the combination of

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the teachings of Sobolev and Fitzgerald et al. Applicant argues that "it does not emerge that a panel out of steel and high-density polyethylene would be particularly useful for making concrete formwork panels", but the requirement that a "particularly useful" embodiment "emerge" from combination of references in making a 35 U.S.C. 103 rejection does not exist in the patent law, patent case law or MPEP.

Applicant points out that Edward Rahe, "Vice-President of Engineering for the leading concrete formworks manufacturer in the United States [who] has tested scores of different concrete formwork panels as part of his job" states his opinion in the Declaration that "the panel described by claim 1 of this application is the best he has ever tested" and "as shown by the enclosed graph" in the Declaration of Carl A. Forest, Applicant's representative, signed December 31, 2003, "the formworks panel according to the invention is about 25% better than a comparable aluminum/plastic panel", but Applicant has not met the burden on Applicant to establish that these results are unexpected and significant in that the evidence relied upon does not establish "that the differences in results are in fact unexpected and unobvious and of both statistical and practical significance" *Ex parte Gelles*, 22 USPQ2d 1318, 1319 (Bd. Pat. App. & Inter. 1992). Applicant has not explained why the differences in results is of practical significance. Applicant has not shown that the differences in results is of statistical significance. Steel is a stiffer material than aluminum, so how would these results, if proven to be statistical significant, be unexpected? Applicant alleges that the 3/8 inch panel comprising steel is "better than" a 1/2 inch panel comprising aluminum, but is this difference of both statistical and practical significance? Furthermore, Applicant has not disclosed the structure of the "German 1/2" panel, which Applicant describes as an "aluminum/plastic laminate concrete formwork panel" in

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paragraph 6 of the 12/31/03 Declaration of Carl A. Forest, so it is not clear if this panel is the closest prior art which is commensurate in scope with the claims as required by MPEP 716.02(b). In view of the foregoing, when all of the evidence is considered, the totality of the rebuttal evidence of nonobviousness fails to outweigh the evidence of obviousness.

Applicant argues that "the foam density limitations of claims 11 and 12, include limitations nowhere disclosed in any of the references for any panel" and that the *In re Boesch* case law is not applicable since "the values claimed are outside the ranges in the prior art", however, as Examiner made of record on pages 15-16 of Paper 5, Sobolev does not teach any range of gas by volume (i.e. a range having lower and upper limits of gas by volume) but does teach the variation of the volume of gas per unit volume of the foam core layer as made of record in the rejection of claims 11 and 12 in Paper 5, which would motivate one of ordinary skill in the art to determine the optimal value of gas by volume of the foam core for the particular desired end result. Applicant argues that Examiner relies on Examiner's opinion in the rejection of claims 6-8, 14-17 and 22, the rejections to these claims do not rely on Examiner's opinion.

17. Applicant's arguments regarding the 35 U.S.C. 103 rejection of claim 18 made of record in Paper 5 have been fully considered but are not persuasive. As made of record in paragraph 17 of Paper 5, Fitzgerald et al. teaches a flange, and one of ordinary skill in the art would have recognized to have formed the flange of Fitzgerald et al. such that it has the structure that is taught by Toedter.

18. Applicant's arguments regarding the 35 U.S.C. 103 rejection of claims 19 and 20 made of record in Paper 5 have been fully considered but are not persuasive. As made of record in paragraph 18 of Paper 5, Lee teaches a cylindrical panel, and one of ordinary skill in the art

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would have recognized to have formed the panel of Sobolev and Fitzgerald et al. in the shape taught by Lee.

19. Applicant's arguments regarding the 35 U.S.C. 103 rejection of claim 23 made of record in Paper 5 have been fully considered but are not persuasive. As made of record in paragraph 19 of Paper 5, since Yoshida et al. disclose a concrete formwork provided with a plurality of ribs to strengthen the plate of the formwork, one of ordinary skill in the art would have recognized to have attached a strengthening rib to the metal backing layer of the panel of Sobolev and Fitzgerald et al. in order to strengthen the panel as taught by Yoshida et al.

20. Applicant's arguments regarding the 35 U.S.C. 103 rejection of claims 23 and 24 made of record in Paper 5 have been fully considered but are not persuasive. Applicant's arguments depend entirely on the arguments against the 35 U.S.C. 103 rejection of claims 1-12, 14-17, 22, 25-28 and 39-42 made of record in Paper 5 that have been addressed above.

21. Applicant's arguments regarding the 35 U.S.C. 103 rejection of claims 39-41 made of record in Paper 5 have been fully considered but are not persuasive. As made of record in paragraph 21 of Paper 5, while Sobolev does not explicitly teach that the foam plastic is 32% or more by gas, Sobolev teaches variation of density of the core layer via control of the volume of gas per unit volume of the core layer and therefore motivates one of ordinary skill in the art to determine the optimal value of gas by volume of the foam core for the particular desired end result as discussed above in regard to claims 11 and 12. Contrary to Applicant's arguments, *In re Boesch* applies because Sobolev does not teach 30% as the "maximum gas core density reduction" (i.e. as the maximum in a range) as Applicants alleged in Paper 4. The claimed ranges are not excluded by Sobolev, and as made of record in paragraph 21 of Paper 5, one of ordinary

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skill in the art would have recognized to have varied the size of the microballoon filler, and therefore the "gas by volume" value of the foam plastic, or to have experimented with different foaming agents and different amounts of a given foaming agent as known by those of ordinary skill in the art as taught by Sobolev, via routine experimentation in order to achieve the optimal "gas by volume" amount as claimed by Applicants, i.e. volume of gas per unit volume of the core layer expressed as a percentage, that achieves the desired laminate weight depending on the desired end result as taught by Sobolev, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Applicant argues that Examiner's statement initially made in Paper 9 that Sobolev teaches variation of the volume of gas per unit volume of the core layer is not true. However, the teaching of Sobolev that Applicant cites is not relied upon in the rejection made of record in paragraph 21 of Paper 5; the teaching that Applicant cites, that is at col. 22, lines 13-15, is not cited in paragraph 21 of Paper 5. The basis for Examiner's statement that Sobolev teaches variation of the volume of gas per unit volume of the core layer is provided in paragraph 21 of Paper 5 and is reproduced below (Applicant has not addressed the subject matter in the text of paragraph 21 of Paper 5):

However, Sobolev teach that a filler is used in the plastic (resin) core layer of the panel to lower the density of the core and that the filler is a foaming agent or blowing agent conventionally used to foam various resins as known by those skilled in the art or glass microballoon filler having an average diameter of from about 20 microns to about 12 mm (col. 12, lines 3-16). Sobolev teaches that for lower density cores and lighter weight laminates, the microballoons and foaming agents are the preferred density lowering agents. Sobolev teach that the specific gravity of the resin core, which is equivalent to the density of the core layer, should be set in a range from about 0.8 to about 1.3. Sobolev teaches the variation of the density of the core layer via routine experimentation via control of the volume of gas per unit volume of the core layer via use of glass microballoons of a given size or of foaming agents conventionally used to foam resins known by those skilled in the art. It would have therefore been obvious to one of ordinary skill in the art at

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the time the invention was made to have varied the size of the microballoon filler, and therefore the "gas by volume" value of the foam plastic, or to have experimented with different foaming agents and different amounts of a given foaming agent as known by those of ordinary skill in the art as taught by Sobolev, via routine experimentation in order to achieve the optimal "gas by volume" amount as claimed by Applicants, i.e. volume of gas per unit volume of the core layer expressed as a percentage, that achieves the desired laminate weight depending on the desired end result as taught by Sobolev, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

The statement "In a number of cases, core density reductions of 30% were readily achieved without loss in important laminate properties" (col. 22, lines 22) does not necessarily "indicate[]" that, in the majority of cases, important laminate properties were lost" as Applicant argues and does not necessarily "impl[y]" that above the range, important laminate properties were lost in all cases" as Applicant argues. Applicant's statement that "The fact that no cases of core density reductions of more than 30% were given does create a range" is consequently not necessarily true. See paragraph 21 of Paper 5.

Conclusion

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is 571-272-1488. The examiner can normally be reached on Monday-Thursday from 9:00am to 6:00pm and on alternate Fridays from 9:00am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished


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Walter B. Aughenbaugh

02/06/04

WBA


HAROLD PYON
SUPERVISORY PATENT EXAMINER
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